HP StorageWorks

Windows connectivity 3.0G for the EVA3000/EVA5000 Enterprise Virtual Array release notes

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About this document

This document includes the following topics:

- Release notes information
- Intended audience

Release notes information

These release notes cover the following topics:

- New features
- EVA storage system
- EVA compatibility
- Operating constraints
- Storage System Scripting Utility for EVA
- Avoiding problem situations
- Host considerations
- Windows 2000 dynamic disk snapshots and snapclones

Intended audience

This document is intended to assist customers who purchased the HP StorageWorks Enterprise Virtual Array (EVA) and the Windows® operating system.

This document is also intended for use by HP customer service personnel responsible for installing and maintaining devices connected to the EVA storage system.

New features

The following are major enhancements included in this release:

- Support is provided for Virtual Controller Software (VCS) 3.025.
- EVA5000/3000 3.0G contains the latest supported Emulex and QLogic drivers.

NOTE:

This release, which includes Emulex driver 5.10a10 and QLogic driver 9.0.0.13, does not support the configuration where a single Windows host has access to an EVA and an MA (HSG80) array simultaneously. The Host Bus Adapter HBA revisions must remain at 4.82a16 for Emulex drivers or 8.2.0.73 for QLogic drivers.

EVA storage system

These release notes contain the most recent product information about operating the EVA on a system running Windows software.

Multiple storage system types

The extended interoperability of the heterogeneous storage area network (SAN) allows you to mix several types of HP StorageWorks storage systems. The latest information about configuration rules are available in *HP StorageWorks SAN design reference guide,* which can be downloaded from this web site:

http://h18000.www1.hp.com/products/storageworks/san/documentation.html

EVA documentation

A complete library of EVA and related documentation is available at the following web sites:

http://www.hp.com/go/eva5000

http://www.hp.com/go/eva3000

Product support information

The latest product support release information and downloads for storage products are available at the following web site:

http://h18006.www1.hp.com/storage/index.html

Supported configurations

Supported configurations are described in the *Enterprise Virtual Array QuickSpecs,* available at the following web sites:

http://h18006.www1.hp.com/products/storageworks/eva3000/specifications.html

http://h18006.www1.hp.com/products/storageworks/eva5000/specifications.html

The *HP StorageWorks SAN design reference guide* is a detailed guide for SAN configurations and is available at the following web site:

http://h18004.www1.hp.com/products/storageworks/san/documentation.html

NOTE:
Windows 2000 Datacenter support is not included in this release.

EVA compatibility

Operating system support

Table 1 lists the operating system's specifications.

> **NOTE:**
> Table 1 contains current minimum level operating system specifications at the time of this release. Some component versions may change due to revision. The latest information is available at the following web site:
>
> http://h18006.www1.hp.com/storage/index.html

Table 1 Operating system specifications

Platform	OS version	Clustering	FCA (HBA)	Adapter firmware/ Boot BIOS version (minimum)	Adapter driver version (minimum)
Windows NT (Intel)	4.0/ SP 6a	MSCS	KGPSA-CB 176479-B21	3.92a1/ 1.63a1	4.82a16
			FCA2101 245299-B21	3.92a1/ 1.63a1	4.82a16
			FCA2355 308540-B21	3.92a1/ 1.63a1	4.82a16
			FCA2404 LP9802	1.01a2/ 1.63a1	4.82a16
			FCA2404DC LP9802DC	1.01a2/ 1.63a1	4.82a16
			FCA2408 343073-B21	1.01a2/ 1.63a1	4.82a16

Platform	OS version	Clustering	FCA (HBA)	Adapter firmware/ Boot BIOS version (minimum)	Adapter driver version (minimum)
Windows 2000 (32 bit)	5.0 SP 3, SP 4	MSCS	KGPSA-CB 176479-B21	*3.91a1/ 1.63a1	*4.82a16
				3.92a2/ 1.70a1	5-5.10a9
			FCA2101 245299-B21	*3.91a1/ 1.63a1	*4.82a16
				3.92a2/ 1.70a1	5-5.10a9
			FCA2355 308540-B21	*3.91a1/ 1.63a1	*4.82a16
				3.92a2/ 1.70a1	5-5.10a9
			FCA2404 305573-B21	*3.91a1/ 1.63a1	*4.82a16
				1.81a2/ 1.70a1	5-5.10a9
			FCA2404DC 323264-B21	*3.91a1/ 1.63a1	*4.82a16
				1.81a2/ 1.70a1	5-5.10a9
			FCA2408 343073-B21 LP982	*3.91a1/ 1.63a1	*4.82a16
				1.81a2/ 1.70a1	5-5.10a9
			FC Mezzanine Card for BL20P	1.34	*8.2.0.73
				1.34	9.00.13
			FCA2214 281541-B21	1.34	*8.2.0.73
				1.34	9.00.13
			FCA2214DC 321835-B21	1.34	*8.2.0.73
				1.34	9.00.13
			A7387A LP1050DC	1.81a3/ 1.70a1	5-5.10a9
			A7388A LP1050	1.81a3/ 1.70a1	5-5.10a9

Platform	OS version	Clustering	FCA (HBA)	Adapter firmware/ Boot BIOS version (minimum)	Adapter driver version (minimum)
Windows Server 2003 (32 bit)	5.2	MSCS	KGPSA-CB 176479-B21	*3.91a1/ 1.63a1	*4.82a16
				3.92a2/ 1.70a1	5-5.10a9
				3.92a2/ 1.70a1	5-1.02a
			FCA2101 245299-B21	*3.91a1/ 1.63a1	*4.82a16
				3.92a2/ 1.70a1	5-5.10a9
				3.92a2/ 1.70a1	5-1.02a
			FCA2355 308540-B21	*3.91a1/ 1.63a1	*4.82a16
				3.92a2/ 1.70a1	5-5.10a9
				3.92a2/ 1.70a1	5-1.02a
			FCA2404 305573-B21	*3.91a1/ 1.63a1	*4.82a16
				1.81a2/ 1.70a1	5-5.10a9
				1.81a2/ 1.70a1	5-1.02a5
			FCA2404DC 323264-B21	*3.91a1/ 1.63a1	*4.82a16
				1.81a2/ 1.70a1	5-5.10a9
				1.81a2/ 1.70a1	5-1.02a5
			FCA2408 343073-B21 LP982	*3.91a1/ 1.63a1	*4.82a16
				1.81a2/ 1.70a1	5-5.10a9
				1.81a2/ 1.70a1	5-1.02a5
			FC Mezzanine Card for BL20P	1.34	*8.2.0.73
				1.34	9.00.13
			FCA2214 281541-B21	1.34	*8.2.0.73
				1.34	9.00.13
			FCA2214DC 321835-B21	1.34	*8.2.0.73
				1.34	9.00.13
			A7387A LP1050DC	1.81a3/ 1.70a1	5-5.10a9
				1.81a2/ 1.70a1	5-1.02a5
			A7388A LP1050	1.81a3/ 1.70a1	5-5.10a9
				1.81a2/ 1.70a1	5-1.02a5

Platform	OS version	Clustering	FCA (HBA)	Adapter firmware/ Boot BIOS version (minimum)	Adapter driver version (minimum)
Windows Server 2003 (64 bit)	5.2	MSCS	A7298A LP982	1.01a2/ 3.00a9	6-5.00a11
				1.81a2/ 3.00a9	6-5.10a9
			AB232A LP9802	1.01a2/ 3.00a9	6-5.00a11
				1.81a2/ 3.00a9	6-5.10a9
			AB466A LP1050DC	1.81a3/ 3.00a9	6-5.10a9
			AB467A LP1050	1.81a3/ 3.00a9	6-5.10a9

* Use this adapter firmware, BIOS, and driver for HSG80 and EVA controllers in the same SAN.

Switch support

This version supports the Fibre Channel (FC) switches and firmware versions listed in the *HP StorageWorks SAN design reference guide*, available at the following web site:

http://h18000.www1.hp.com/products/storageworks/san/documentation.html

NOTE:
HP recommends that you do not mix switch firmware versions in your SAN. It is considered a best practice to uniformly upgrade all switches in the SAN.

Multiple-path support

Windows with EVA storage requires the installation of StorageWorks Secure Path on each host to achieve high-availability, multiple-path capability.

Single-path support

Windows 2000, Windows NT, or Windows 2003 32-bit and 64-bit servers require a single Fibre Channel Adapter FCA to support single-path mode.

NOTE:
Single-path mode should not be used in mission-critical environments.

Server support

Windows supports Intel-based, ProLiant X86, and ProLiant Blade Servers and HP Integrity Servers.

Operating constraints

You can find information about operating constraints specific to the EVA and Command View EVA in their respective release notes.

SAN boot procedures

Booting from the SAN is supported for Windows NT, Windows 2000, and Windows 2003 for multipath configurations. SAN boot procedures are available on the following StorageWorks web site:

http://h18000.www1.hp.com/products/storageworks/san/documentation.html.

Failover/failback

Failback preference settings for the HSV controllers are specific to the operating system. Refer to the *HP StorageWorks Windows connectivity for the Enterprise Virtual Array installation and reference guide* for details.

Storage System Scripting Utility for EVA

The Storage System Scripting Utility (SSSU) communicates directly with the Command View EVA. Refer to the *HP StorageWorks Windows connectivity for the Enterprise Virtual Array installation and reference guide* for details.

Avoiding problem situations

The following sections describe problems that may arise and their solutions.

Known problems

You can find information about problems specific to the EVA and Command View EVA in their respective release notes.

Using Critical Resource Management with Windows NT 4.0

EVA 3.025 incorporates a new Critical Resource Management feature. Critical Resource Management can send `Queue Full` responses to SCSI commands before the maximum allowable queue depth of 2048 is reached for a fabric port. Windows NT 4.0 does not properly handle these responses and I/O errors can result. Select a custom host mode for NT 4.0 hosts to disable Critical Resource Management:

1. Click **Add a Host** in Command View EVA.

2. Enter **00000004 1F80B8A8** in the Customer mode number box.

   Disabling Critical Resource Management affects the entire array. HP strongly recommends that you run homogeneous Windows NT 4.0 environments and not mix Windows NT 4.0 hosts with hosts running other operating systems on a given EVA system if you are connecting with Windows NT 4.0 and using custom host mode.

Secure Path version

The EVA with VCS 3.025 requires the latest version of Secure Path for your operating system. The current version of Secure Path for your operating system can be found at the following web page:

http://h18006.www1.hp.com/products/storageworks/enterprise/specifications.html

Codeload usage

When a maximumally configured system is running at maximum load, Secure Path timing constraints make codeload functionality ineffective. The system may time-out before codeload is complete. Therefore, you should perform VCS upgrades at an off-peak time.

SSSU

Changing comments on a disk enclosure

Use Command View EVA to change comments on a disk enclosure. If you try to change a disk enclosure comment using the SSSU, the following error message appears:

```
Error:  Invalid Operation
```

Changing the name of a disk enclosure

Changing the name of a disk enclosure is not supported with the SSSU or with Command View EVA. If you try to change a disk enclosure name using the SSSU, the following error message appears:

```
Error:  Invalid Operation
```

Disk Resource Pending Timeout for large configurations

To ensure continuous operation of disk resources across SAN perturbations with disk resource counts greater than eight, HP recommends that the Pending Timeout parameter for each disk resource be increased from 180 seconds to 360 seconds.

To view and set the Pending Timeout parameter:

1. Open the Microsoft Cluster Administrator.

2. Select a Disk Group resource in the left pane.

3. One at a time, right-click each Disk Resource in the right pane and select **Properties**.

4. Select the **Advanced** tab from the Properties menu.

5. Locate the Pending Timeout value and change it to **360**.

6. Click **OK**.

Host considerations

This section contains information and important reminders about the host servers.

Windows 2000 and Windows Server 2003 notes

There are two situations in which drive-letter remapping might occur that could affect access to data by programs you may need to run.

- Replacing one server with another.
- Replacing an FC HBA in one of your systems.
  During such a system or adapter changeover, be sure to manually remap drives to drive letters using Disk Manager. This restores proper access to your data.

When you replace an FC HBA in a server, you need to reinstall the HBA driver. Windows 2000/Windows Server 2003 automatically reloads the original driver for this adapter and resets many important registry settings. New connections are created on the HSV controller. Assign the new WWNs to the appropriate host.

Upgrading from Windows NT 4.0 to Windows 2000 or Windows Server 2003

If you are upgrading from Windows NT 4.0 to Windows 2000 or Windows Server 2003, you must remove the software components installed by the previous version of the Fibre Channel Setup utility:

1. Start the existing version of the Fibre Channel setup utility, and follow the procedures to remove components. Alternatively, you can use the Add/Remove Programs applet.

2. Upgrade from Windows NT 4.0 to Windows 2000 or Windows Server 2003 as instructed by Microsoft documentation.

3. Reboot.

4. Install the HBA driver upgrade as instructed in the *HP SANworks Windows NT/Windows 2000 Kit V2.0 for Enterprise Virtual Array*.

5. Run the Fibre Channel Setup utility.

Registry growth in Windows

The Windows plug-and-play architecture limits the number of plug-and-play devices that are added or removed from the registry. Whenever devices are added or removed, or snapshots created or deleted, entries are added to the registry by the plug-and-play manager, potentially causing the registry to grow beyond the allowed capacity.

If more than 700 entries are in the registry, the next time the system reboots, the following error message occurs: `Failed to load Windows 2000 due to a file missing or corrupt in the \WINNT\SYSTEM32\CONFIG\SYSTEM directory`.

Refer to the Microsoft Knowledge Base article (Q269075), for more information about the registry growth problem.

Known limitations for large LUNs for Windows 2000

In Windows 2000, if any LUN greater than 7 is removed and a subsequent disk scan is performed, the Found New Hardware wizard may ask you to finish the installation of the device that was removed. The Device Manager may show the device with a yellow warning icon on it. A reboot of the system removes the device.

Windows 2000 dynamic disk snapshots and snapclones

The use of snapshots and snapclones in HP SANs is not supported in a Windows 2000 environment if the snapshot or snapclone is presented to the same Windows 2000 host as the LUN from which the snapshot or snapclone was created. Snapshot and snapclone are features of the HSG80 and HSV110 controller-based HP Storage systems. All dynamic disks on a system have information in their metadata about the other dynamic disks on the system that exist. When Windows is presented with two dynamic disks that have the same information on them, it cannot resolve the conflict.